

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/757,213	ROVEGNO, JEAN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Philip R. Smith	3739	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendments of 2/2 & 2/24/2006.
2. ☒ The allowed claim(s) is/are 1-6 and 11-37.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

## **DETAILED ACTION**

### **Examiner's Amendment**

- [01] An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
- [02] An Amendment after Final Rejection was filed on 2/9/2006; a lack of antecedent basis was found in claims 12-13. A corrected Listing of Claims was emailed to the Examiner on 2/24/2006, along with an authorization to enter the following Examiner's Amendment.
- [03] An extension of time under 37 CFR 1.136(a) is required in order to make an examiner's amendment which places this application in condition for allowance. During a telephone conversation conducted on 3/7/2006, Gregory A. Sebald requested an extension of time for 2 MONTH(S) and authorized the Director to charge Deposit Account No. 13-2725 the required fee of \$450 and any other fees which may be due for this extension and authorized the following examiner's amendment. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
- [04] The application has been amended as follows. Claims 15 & 16 are rejoined.

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

- 1 (Previously Presented) A videoendoscope comprising:
  - an inspection probe including an inspection tube having a distal endpiece housing an optoelectronic imaging device delivering an electrical signal;
  - a video processor for processing the electrical signal delivered by the imaging device in order to generate a video signal;
  - a control unit secured to a proximal end of the inspection tube and provided with controls for controlling and adjusting the video processor;
  - an umbilical connection cable having a distal end secured to the control unit for connecting the videoendoscope to a light source and to an electrical power supply;
  - a display unit including a video display screen connected to the video processor in order to display the video signal; and
  - a bundle of lighting fibers integrated without interruption in the umbilical cable, in the control unit, and then in the inspection tube, and having a distal end housed in the distal endpiece that serves to light a target observed by the probe when a proximal end of the umbilical cable is connected to a light generator;
- wherein the display unit is secured to a side face of the control unit to form an assembly configured to be held in one hand and actuated while being held in said hand, the control unit having a control panel on a top face and carrying control members including said controls for controlling and adjusting the video processor, and the assembly being of elongate shape between a distal end and a proximal end so as to be suitable for being held in said hand while allowing the control members to be actuated by using the thumb of said hand;

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wherein the video processor is included in the control unit; and

wherein the control unit has mechanical and electrical coupling means on both side faces to enable the display unit to be fixed and electrically connected to either side face of the control unit.

2. (Previously Presented) A videoendoscope according to claim 1, wherein the umbilical cable and the inspection tube are adjacent and connected to the control unit via at least one side face thereof.

3. (Original) A videoendoscope according to claim 1, wherein the display unit is secured to the control unit via a hinge enabling the display screen to be tilted about an axis perpendicular to the side face of the control unit, the display unit being electrically coupled to the control unit by means of electrical conductors passing through the hinge.

4. (Original) A videoendoscope according to claim 3, wherein the hinge is constituted by a connector providing releasable mechanical and electrical connection between the display unit and the control unit.

5. (Previously Presented) A videoendoscope according to claim 1, wherein the proximal end of the umbilical cable is secured to a connection unit fitted with connection means for connection to the proximal end of the bundle of lighting fibers and to a light generator, and connection means for connecting the videoendoscope to an electrical power supply.

6. (Original) A videoendoscope according to claim 5, wherein the connection endpiece has fixing means for fixing a mechanical adapter to adapt the connection endpiece to the connection endpiece of any light generator, the control panel including a control member for controlling initialization of the video processor as a function of the color temperature of the lamp of the light generator.

7-10. Cancelled

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11. (Previously Presented) A videoendoscope according to claim 5, wherein the connection unit further comprises connection means for connecting the probe to a system for processing and or storing images, the videoendoscope further comprising switch means designed to deliver to the video screen either the video signal coming from the video processor or the video signal coming from the system for processing and/or storing images.

12. (Currently Amended) A videoendoscope comprising:  
an inspection probe including an inspection tube having a distal endpiece housing an optoelectronic imaging device delivering an electrical signal;  
a video processor for processing the electrical signal delivered by the imaging device in order to generate a video signal;  
a control unit secured to a proximal end of the inspection tube and provided with controls for controlling and adjusting the video processor;  
an umbilical connection cable having a distal end secured to the control unit for connecting the videoendoscope to a light source and to an electrical power supply;  
a display unit including a video display screen connected to the video processor in order to display the video signal;  
switch means designed to deliver to the video screen either the video signal coming from the video processor or the video signal coming from the a system for processing and/or storing images; and  
a bundle of lighting fibers integrated without interruption in the umbilical cable, in the control unit, and then in the inspection tube, and having a distal end housed in the distal endpiece that serves to light a target observed by the probe when a proximal end of the umbilical cable is connected to a light generator;  
wherein the display unit is secured to a side face of the control unit to form an assembly configured to be held in one hand and actuated while being held in said hand, the control unit having a control panel on a top face and carrying control members including said controls for controlling and adjusting the video processor, and the assembly being of elongate shape between a distal end and a proximal end so as to be

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suitable for being held in said hand while allowing the control members to be actuated by using the thumb of said hand;

wherein the proximal end of the umbilical cable is secured to a connection unit fitted with connection means for connection to the proximal end of the bundle of lighting fibers and to a light generator, and connection means for connecting the videoendoscope to an electrical power supply;

wherein the connection unit further comprises connection means for connecting the probe to a the system for processing and or storing images; and

wherein the control unit has means for controlling a system for processing and/or storing images, which system is connected to the connection means of the connect unit, said connection means including a pin for transmitting the video signal generated by the video processor to a video input of the system for processing and/or storing images, a pin for transmitting to the switch means a video signal generated by the system for processing and/or storing images, and a pin for connecting the controls of the control unit to a control interface of the system for processing and/or storing images.

13. (Currently Amended) A videoendoscope comprising:

an inspection probe including an inspection tube having a distal endpiece housing an optoelectronic imaging device delivering an electrical signal;

a video processor for processing the electrical signal delivered by the imaging device in order to generate a video signal;

a control unit secured to a proximal end of the inspection tube and provided with controls for controlling and adjusting the video processor;

an umbilical connection cable having a distal end secured to the control unit for connecting the videoendoscope to a light source and to an electrical power supply;

a display unit including a video display screen connected to the video processor in order to display the video signal; and

a bundle of lighting fibers integrated without interruption in the umbilical cable, in the control unit, and then in the inspection tube, and having a distal end housed in the

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distal endpiece that serves to light a target observed by the probe when a proximal end of the umbilical cable is connected to a light generator;

switch means designed to deliver to the video screen either the video signal coming from the video processor or the video signal coming from the a system for processing and/or storing images; and

means for controlling the switch means to direct the video signal coming from the system for processing and/or storing images to the video screen immediately said system is connected to the connection means;

wherein the display unit is secured to a side face of the control unit to form an assembly configured to be held in one hand and actuated while being held in said hand, the control unit having a control panel on a top face and carrying control members including said controls for controlling and adjusting the video processor, and the assembly being of elongate shape between a distal end and a proximal end so as to be suitable for being held in said hand while allowing the control members to be actuated by using the thumb of said hand;

wherein the proximal end of the umbilical cable is secured to a connection unit fitted with connection means for connection to the proximal end of the bundle of lighting fibers and to a light generator, and connection means for connecting the videoendoscope to an electrical power supply; and

wherein the connection unit further comprises connection means for connecting the probe to a system for processing and or storing images.

14. (Original) A videoendoscope according to claim 11, wherein the switch means are integrated in the control unit.

15. (Original) A videoendoscope according to claim 11, wherein the switch means are integrated in the display unit.

16. (Original) A videoendoscope according to claim 11, wherein the switch means are integrated in the connection unit.

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17. (Original) A videoendoscope according to claim 11, wherein the connection means for connecting the probe to a system for processing and/or storing images includes a connection pin enabling the videoendoscope to be powered from an electrical power supply associated with the system for processing and/or storing images.

18. (Previously Presented) A videoendoscope according to claim 11, wherein the connection unit includes means for connecting the videoendoscope to an auxiliary electrical power supply.

19. (Previously Presented) A videoendoscope according to claim 11, wherein the connection unit includes means for connecting the videoendoscope to an auxiliary video monitor, the switch means including means for sending the video signal applied to the input of the video screen towards the connection means for connection to the auxiliary video monitor.

20. (Previously Presented) A videoendoscope according to claim 11, further comprising a control handle having means for controlling the switch means.

21. (Original) A videoendoscope according to claim 1, wherein the control unit further comprises:

- an electromechanical device designed to deform a deformable distal bending section integrated in the distal end of the inspection tube in order to steer the distal end of the inspection tube and thus steer the observation window of the probe, the electromechanical device comprising two motors actuating the distal bending section via two respective pairs of cables for steering the distal end of the inspection tube in two respective planes;

- a processor delivering two control signals that are applied respectively to the two motors; and

- command input means comprising two command input members connected to the processor to input commands intended for the two motors respectively, each of the



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two command members having a first state in which the processor controls the corresponding motor to keep the orientation of the distal end of the inspection tube fixed, and second and third states in which the processor controls the respective motor to cause the distal end of the inspection tube to vary its orientation respectively in one direction and in the opposite direction.

22. (Original) A videoendoscope according to claim 21, wherein each of the motors is of the servo-motor type actuating a pulley coupled to a respective cable pair and of angular position that can be controlled by the respective control signal generated by the processor and applied to the motor, each control signal being in the form of a pulse train, with the width of the pulses corresponding to a determined angular position of the pulley, the processor comprising means for keeping the width of the pulses in each control signal constant so long as the respective control member is in its first state, and for increasing and decreasing the width of the pulses at a predefined speed whenever the corresponding control member is respectively in its second or third state.

23. (Previously Presented) A videoendoscope according to claim 22, including an additional control member integrated in the control panel and connected to the processor to cause the width of the pulses in the control signals applied to the motors to be controlled in such a manner as to be equal to a middle value corresponding to zero deformation of the distal bending section.

24. (Previously Presented) A videoendoscope according to claim 23, wherein the additional control member is integrated in the command input means for controlling the distal bending section.

25. (Previously Presented) A videoendoscope according to claim 21, wherein each of the two command input members comprises a pair of contacts which are both open in the first state, with one or other of the contacts being closed in the second and third states.

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26. (Original) A videoendoscope according to claim 25, wherein each of the control members comprises two pushbuttons integrated in the control panel to actuate two respective contacts which are in the open state when at rest, and which pass to the closed state when the corresponding pushbutton is held pressed down.

27. (Original) A videoendoscope according to claim 21, wherein the means for inputting commands for the bending section comprise a joystick suitable for actuating both command input members simultaneously.

28. (Original) A videoendoscope according to claim 21, including an additional control member integrated in the control panel to modify the speed at which the distal end of the inspection tube is steered by selecting a slow speed or a fast speed.

29. (Original) A videoendoscope according to claim 21, wherein the processor is programmed to select a fast speed of variation for steering the distal end the inspection tube if at least one of the two control members is maintained in the second or third state for a duration longer than a predefined threshold, and to select a slow speed for varying the steering of the distal end of the inspection tube if both control members are in the first state.

30. (Original) A videoendoscope according to claim 21, wherein the processor is programmed to determine the orientation of the distal end of the inspection tube as a function of the form of the control signals applied respectively to two motors, and to display on the display screen symbols representing the determined orientation.

31. (Previously Presented) A videoendoscope comprising:

- an inspection probe including an inspection tube having a distal endpiece housing an optoelectronic imaging device delivering an electrical signal;

- a video processor for processing the electrical signal delivered by the imaging device in order to generate a video signal;

- a control unit secured to a proximal end of the inspection tube and provided with controls for controlling and adjusting the video processor;

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an umbilical connection cable having a distal end secured to the control unit for connecting the videoendoscope to a light source and to an electrical power supply;

a display unit including a video display screen connected to the video processor in order to display the video signal; and

a bundle of lighting fibers integrated without interruption in the umbilical cable, in the control unit, and then in the inspection tube, and having a distal end housed in the distal endpiece that serves to light a target observed by the probe when a proximal end of the umbilical cable is connected to a light generator;

a storage and transport case containing an electrical power supply and lighting generator, the storage case containing a drum around which the probe can be wound, the drum being mounted in such a manner as to be capable of turning freely about its axis and having a tubular cavity for receiving the distal end of the probe, and opening out tangentially from the cylindrical surface of the drum;

wherein the display unit is secured to a side face of the control unit to form an assembly configured to be held in one hand and actuated while being held in said hand, the control unit having a control panel on a top face and carrying control members including said controls for controlling and adjusting the video processor, and the assembly being of elongate shape between a distal end and a proximal end so as to be suitable for being held in said hand while allowing the control members to be actuated by using the thumb of said hand.

32. (Original) A videoendoscope according to claim 31, wherein the drum comprises a central hub held between two side plates on the same axis, the cavity being made from one of the side faces of the hub and being closed latterly by one of the two side plates.

33. (Original) A videoendoscope according to claim 31, wherein the central hub is made of a material presenting a high coefficient of friction.

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34. (Original) A videoendoscope according to claim 32, wherein the central hub is made of a hard cellular foam.
35. (Original) A videoendoscope according to claim 31, wherein the storage case has a housing in which the drum is secured, the housing possessing an opening giving access to a portion of the cylindrical surface of the drum.
36. (Original) A videoendoscope according to claim 31, wherein the case has a lid whose inside face is covered in foam, the drum being mounted in the case in such a manner as to be prevented from rotating by the foam in the lid when the lid is closed on the case.
37. (Original) A videoendoscope according to claim 31, wherein the inside diameter of the cylindrical cavity is slightly greater than the greatest diameter of the distal end of the probe that is to be wound about the drum.
38. Cancelled

#### **Reasons for Allowance**

- [05] The examiner's statement of reasons for allowance can be found under the "Allowable Subject Matter" heading of the Non-Final Rejection of 6/1/2005.
- [06] Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### **Conclusion**

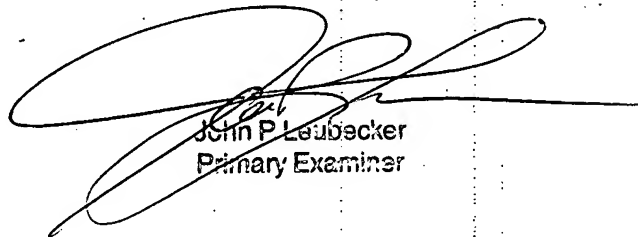
- [07] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip R. Smith whose telephone number is (571)

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272 6087. The examiner can normally be reached between 9:00am and 5:00pm.

- [08] If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (571) 272 4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
- [09] Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

prs



John P. Leuboecker  
Primary Examiner